ADAM SMITH AND THE MONETARY APPROACH TO THE BALANCE OF PAYMENTS*

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This article attempts to resolve what Jacob Viner in his classic *Studies in the Theory of International Trade* [4; p. 87] and D. P. O'Brien in his *The Classical Economists* [2; p. 146] refer to as a major mystery in the history of economic thought. The mystery is Adam Smith's failure in the *Wealth of Nations* to incorporate either the quantity theory of money or the Humean price-specie-flow mechanism (two concepts with which he was thoroughly familiar and which formed the core of the classical theory of international adjustment) into his analysis of the balance of payments. Far from using these concepts to explain how excessive money growth inflates prices and how the resulting rise in domestic relative to foreign prices induces a trade balance deficit and a consequent outflow of specie, Smith contended that excess money would be drained off through the balance of payments without affecting prices.

Why did Smith fail to incorporate quantity theory and price-specie-flow elements into his discussion of the international monetary mechanism? It is argued below that the answer lies in his adherence to what is now known as the *monetary approach to the balance of payments*. That approach denies the validity of both the quantity theory of money and the price-specie-flow mechanism in the case of the small open economy operating under fixed exchange rates.[1] It rejects the price-specie-flow concept on the grounds that prices in the small open economy are determined in world markets and cannot deviate from foreign (i.e., world) prices. Likewise, it rejects the quantity theory on the grounds that since money flows in through the balance of payments to support the predetermined price level, causation necessarily runs from prices to money rather than from money to prices, contrary to the predictions of the quantity theory. Given the monetary approach's rejection of both the quantity theory and price-specie-flow concepts in the case of the small open economy operating under fixed exchange rates, it is not surprising that Smith, to the extent that he adhered to that approach, would also ignore those concepts.

The purpose of this article is to show that Smith did indeed adhere to the monetary approach and that this explains his failure to incorporate quantity theory and price-specie-flow elements into his analysis of the international adjustment mechanism. As a preliminary, however, it is necessary to spell out the basic essentials of the monetary approach in order to document Smith's acceptance of those essentials. Accordingly, the first half of the article outlines the monetary approach itself while the second half shows what Smith had to say about that approach.

What is the Monetary Approach to the Balance of Payments?

To demonstrate that Smith was indeed a proponent of the monetary approach, it is necessary to spell out the essentials of that approach. Basically, the monetary approach is a framework for analyzing how integrated open national economies eliminate their excess money supplies and demands in a regime of fixed exchange rates. As usually presented, the framework distinguishes between the individual small open economy itself and the larger closed world aggregate of which it is a part.

In the case of the closed world aggregate, all the familiar propositions of closed-economy monetarism hold. World money supply and demand determine the world price level. That price level adjusts to clear the world market for money balances by equating the real (price-deflated) value of the nominal world money stock (the sum of the national money stocks converted into a common monetary unit at the fixed rate of exchange) with the world real demand for it so that all world money is willingly held. Any rise in the nominal money stock such that actual real money balances exceed desired real

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[1] Note that the quantity theory is rejected only in the case of the open economy under fixed exchange rates. Neither Smith nor modern proponents of the monetary approach deny the validity of the quantity theory in the case of the closed world economy. Nor do they deny its validity in the case of the small open economy under freely floating exchange rates. On the contrary, they argue that in both of these cases money determines prices just as the quantity theory predicts.

money balances induces a rise in world prices that restores monetary equilibrium by adjusting actual to desired real balances. In short, in the case of the closed world economy, price level changes constitute the adjustment mechanism that equilibrates money supply and demand and the quantity theory holds in the sense of causation running unidirectionally from money to prices.

In the case of the small open economy operating under fixed exchange rates and trading its goods on unified world markets, however, adjustment cannot occur through price level changes since prices are determined on world markets and given exogenously to the small open economy. Instead, adjustment takes place through the balance of payments as domestic residents export money and import goods to get rid of an excess money supply, or export goods and import money to eliminate an excess money demand. More specifically, a rise in the nominal money supply such that actual real cash balances exceed desired real balances will generate a balance of payments deficit which itself causes the excess supply of money to contract as these excess balances are traded for foreign goods and securities. Via the balance of payments deficit this contraction will continue until the excess money is eliminated and monetary equilibrium is restored. Conversely, a rise in the world (and hence domestic) price level such that actual real cash balances fall short of desired cash balances will induce a temporary balance of payments surplus as domestic residents act to correct the monetary shortfall by exporting goods in exchange for imports of money. In this case, flows of money through the balance of payments constitute the adjustment mechanism that equilibrates money supply and demand and causality runs from prices to money rather than vice-versa as in the quantity theory. These points are clarified in the analytical model underlying the monetary approach.

Basic Monetary Model

To illustrate how the small open economy achieves monetary equilibrium through the balance of payments, proponents of the monetary approach employ a simple expository model consisting of the following four equations:

(1)	$M_d = kPY$	demand for money
(2)	$M_s = C + R$	money supply identity
(3)	$P = EP_w$	law of one price
(4)	$M_s = M_d$	monetary equilibrium condition.

Equation 1 expresses the demand for money M_d as a stable function of the product of domestic prices P and the level of real output Y, with the constant coefficient k being the fraction of nominal income PY that people desire to hold in the form of cash balances.[2] The price level P is treated as given on the grounds that the small open economy is too small to influence world prices and thus is a price taker on world markets. Likewise, real output Y is taken as given on the grounds that the small open economy can sell all it wishes on the world market at given world prices and thus always produces the full capacity level of output.

Equation 2 defines the money stock in terms of the assets backing it, namely domestic credit C extended by the banking system and foreign exchange reserves R acquired through the balance of payments. Of these two components, only domestic credit is exogenous and under the control of the central bank. By contrast, the foreign reserve component (and thus the money stock itself) is endogenous, responding passively through the balance of payments to changes in money demand.

Equation 3 expresses the law of one price according to which the price equalizing effect of commodity arbitrage renders domestic traded goods prices P the same as world prices P_w converted into a common unit of account at the fixed exchange rate E. Both world prices and the exchange rate are assumed to be given, which means that domestic prices are determined on world markets and given exogenously to the small open economy.

Equation 4 is the monetary equilibrium condition according to which money supply M_s equals money demand M_d so that all money is willingly held and the market for cash balances clears. Equilibrium in this system is attained via flows of money (i.e., foreign exchange reserves) through the balance of payments. To see this, substitute equations 1 through 3 into equation 4 to get

$$(5) \quad R = kEP_wY - C$$

which says that under fixed exchange rates foreign exchange reserves R must adjust to offset changes in real output Y, world prices P_w, and domestic credit C. In short, the model states that reserve flows through the balance of payments adjust to maintain monetary equilibrium in the face of autonomous

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[2] A slightly more complex money demand function used in empirical studies is

$$M_d = kPY^a i^{-b}$$

where i is the interest rate and a and b are the income and interest rate elasticities of the demand for money.

shifts in the determinants of money supply and demand. Recognizing that the change in reserves $\dot{R}$ is[3] defined as the state of the balance of payments B, the self-equilibrating role of reserve flows through the balance of payments can be summarized by the expression

$$(6) \quad B = \dot{R} = b(M_d - M_s).$$

Equation 6 says that the state of the balance of payments B and the associated change in reserves $\dot{R}$ depends upon the excess demand for money, being positive when there is excess money demand, negative when there is excess money supply, and zero in the absence of excess money supply and demand. In short, the equation implies that reserve flows act to correct the very monetary disequilibrium that induces them.[4] Here is the key idea of the monetary approach, namely that when actual cash balances fall short of desired cash balances people will correct the discrepancy by exporting domestic goods and securities in exchange for imports of money.

Key Propositions

The foregoing model yields at least six propositions that characterize and identify the monetary approach to the balance of payments. They include the following:

1. PRICE LEVEL EXOGENEITY. The general price level is determined on world markets by world money supply and demand and given exogenously to the small open economy, i.e., the latter is a price taker on world markets.

2. MONEY STOCK ENDOGENEITY. The money stock in the small open economy is an endogenous variable that adapts to any given money demand. Money demand cannot adjust to money supply since all its determinants are exogenous. Instead money supply adjusts to money demand and does so via reserve flows through the balance of payments.

3. MONEY STOCK COMPOSITION. The monetary authorities in the small open economy can control the composition but not the total of the money stock. Given money demand, a policy-engineered rise in the domestic credit component of the money stock will induce an equal and offsetting fall in the foreign reserve component leaving the total stock unchanged.

4. PRICE-TO-MONEY CAUSALITY. Money adjusts to prices, not prices to money, in the small open economy. Thus, an exogenous rise in the price level such that money demand exceeds money supply induces a net inflow of money through the balance of payments sufficient to eliminate the excess demand and to support the higher price level. Conversely, an exogenous fall in the price level such that money supply exceeds money demand induces an outflow of reserves and a corresponding contraction of the money stock. Via the balance of payments mechanism, money adapts to prices rather than prices to money as in the quantity theory. Contrary to that theory, money flows in and out through the balance of payments to support (validate) the predetermined price level.

5. ABSENCE OF RELATIVE PRICE EFFECTS. Relative price effects such as those envisioned in Hume's price-specie-flow mechanism play no role in the international adjustment process. Instantaneous commodity arbitrage and the law of one price preclude discrepancies between national price levels of the type described by Hume. With prices determined on world markets and given exogenously to the small open economy, there is no way that domestic prices can get out of line with foreign (i.e., world) prices for any significant length of time. This means that Hume's mechanism, with its assumed rise in domestic relative to foreign prices, is inoperative. Adjustment must therefore occur through another channel.

6. DIRECT EXPENDITURE EFFECTS. Adjustment occurs through direct spending (real balance) effects rather than through relative price effects. With relative price changes ruled out, monetary adjustment requires another channel. Accordingly, the monetary approach postulates a direct spending channel. As explained by the monetary approach, an excess supply of money induces a rise in spending as cashholders attempt to get rid of their excess money balances by converting them into goods. With prices given and real output at full capacity, however, the increased spending spills over into the balance of payments in the form of an increased demand for imports. The result is an import deficit financed by an outflow of money. In this manner the excess money is worked off through the balance of payments in exchange for net imports of foreign goods and securities. The spending ceases when the monetary excess is eliminated and money balances are restored to their desired levels. No relative price changes are involved.

Constituting the central analytical core of the monetary approach to the balance of payments, these propositions must be found in Smith's work if he is

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[3] The dot over the reserves variable denotes the rate of change (time derivative) of that variable.

[4] To show how reserve flows operate to restore monetary equilibrium in this system, simply substitute equations 1 through 3 into equation 6 to obtain

$$(6') \quad \dot{R} = b(\overline{R} - R),$$

where $\overline{R} \equiv kEP_wY - C$ denotes the equilibrium or money market-clearing level of reserves. Equation 6′ is a first-order nonhomogeneous differential equation expressing the rate of change of reserves as a function of the gap between their actual and equilibrium levels. Solving this equation for the time path of reserves yields

$$R(t) = (R_o - \overline{R})e^{-bt} + \overline{R}$$

where t is time, R_o is the initial disequilibrium level of reserves, e is the base of the natural logarithm system, and b is the adjustment coefficient showing the speed of adjustment of actual to equilibrium reserves. This expression states that when the adjustment coefficient b is larger than zero reserves will converge smoothly upon their equilibrium level with the passage of time as $t \to \infty$, thereby ensuring the restoration of monetary equilibrium.

to be considered a proponent of that approach. Accordingly, the following paragraphs show what he had to say on each of the propositions listed above.

Before presenting Smith's views, however, it may be useful to identify the typical economy he had in mind in his discussion of the international monetary mechanism. As pointed out by David Laidler [1; p. 190], Smith's monetary analysis is largely based upon the actual experience of Scotland in the mid-eighteenth century. Using Scotland as his model, he makes it clear that he is dealing with an open economy whose money stock is too small a portion of the world stock to influence world prices and which takes its price level as determined in world markets ("the great market of the commercial world"). He assumes this economy adheres to a gold standard monetary system with a convertible paper currency and fixed exchange rates. That is, he takes for granted a monetary system in which paper (banknote) currency is instantly convertible into specie at a fixed price upon demand. Finally, like most classical economists, he also takes full employment as the normal state of affairs. In short, he describes a fully-employed small open economy operating a convertible domestic (paper) currency linked to the international (specie) currency via a fixed rate of exchange. Given the similarities between his model and that of the monetary approach, it is small wonder that he enunciates the major propositions of that approach. His views on these propositions are presented immediately below.

Price Level Exogeneity

If the notions of price level exogeneity, money stock endogeneity, price-to-money causality, and the absence of relative price changes in the adjustment mechanism typify the monetary approach, then Adam Smith was indeed a strong proponent of that approach. With respect to price level exogeneity, he contended that the general price level is determined on world markets by specie supply and demand and then given exogenously to the small open economy. He reached this conclusion via the following steps.

First, he argued that the price of goods in terms of specie is determined in "the great market of the commercial world" by the world stock of specie, which depends upon the productivity of the mines. The world specie price of goods ("the proportion between the value of gold and silver and that of goods of any other kind"), he declares,

> **depends in all cases, not upon the nature or quantity of any particular paper money, which may be current in any particular country, but upon the richness or poverty of the mines, which happen at any particular time to supply the great market of the commercial world with those metals. [3; pp. 312-13]**

Here is the notion that world prices are determined on world markets by the world money stock.

Second, he held that the gold convertibility of the currency ensures that, once determined, these same world prices will also prevail in the small open economy. For according to him, such convertibility renders domestic paper money "equal in value to gold and silver money; since gold and silver money can at any time be had for it." And since convertibility renders paper money as good as gold, it follows, he said, that "whatever is either bought or sold for such paper, must necessarily be bought or sold as cheap as it could have been for gold and silver." [3; p. 308] In other words, domestic paper money prices will therefore be the same as world gold prices expressed in domestic currency units at the fixed domestic money price of gold.

Underlying Smith's analysis of the equivalence of domestic and world prices measured in terms of a common currency is the relationship

$$(7) \quad P = EP_w$$

expressing the domestic paper currency price of goods P as the product of the domestic currency price of gold E (a fixed exchange rate when currency is convertible) and the world gold price of goods P_w. Under a convertible currency (gold standard) regime, the domestic currency price of gold is a fixed constant determined by the specified gold content of the domestic monetary unit. That is, so long as the currency is convertible, the market price of gold in terms of domestic currency will tend to equal the official (fixed) mint price. Likewise, the world gold price of goods (a proxy for the world price level) will be taken as given by the small open economy since the latter is too small to influence world prices. And with the domestic currency price of gold and the world gold price of goods both given, it follows that their product, the domestic price level, is also determined on world markets and given exogenously to the small open economy. Smith used this logic, albeit implicitly, in concluding that the small open economy is a price taker on world markets.

Money Stock Endogeneity

The second proposition of the monetary approach states that the money supply in the small open economy is a passive, demand-determined variable that adapts itself to the needs of trade. In other words,

the volume of trade or level of economic activity determines the demand for money to which the money stock, via demand-induced money flows through the balance of payments, passively responds. Via this mechanism, money adjusts to support the given level of economic activity, which means that the latter determines the size of the money stock in the small open economy.

That Smith endorsed this proposition is evident from his statement that

> . . . the quantity of coin in every country is regulated by the value of the commodities which are to be circulated by it . . . . [3; p. 408]

Increase the demand for coins, he said, i.e.,

> increase the consumable commodities which are to be circulated . . . by means of them, and you will infallibly increase the quantity. [3; p. 409]

For, according to Smith,

> When . . . the wealth of any country increases, when the annual produce of its labour becomes gradually greater and greater, a greater quantity of coin becomes necessary in order to circulate a greater quantity of commodities: and the people, as they can afford it, as they have more commodities to give for it, will naturally purchase a greater and a greater quantity . . . . The quantity of their coin will increase from necessity. [3; p. 188]

Like modern proponents of the monetary approach, he argues that the money supply adjusts to the needs of trade through the balance of payments as domestic residents export goods abroad in exchange for imports of money. Let the real output of domestic goods and services increase, he said,

> and immediately a part of it will be sent abroad to purchase, wherever it is to be had, the additional quantity of coin requisite for circulating them. [3; p. 408]

That is, if real output and hence the demand for money rise, part of the new output will be exported through the balance of payments to obtain imports of specie. These specie imports will augment the money stock, which thereby expands to meet the needs of trade. In this way the money stock passively adapts to the increased demand for it, just as the monetary approach predicts. To demonstrate this result, Smith constructs a simple analytical model consisting of a money demand function, a money supply identity, a law of one price relationship, and a monetary equilibrium condition.

Regarding the money demand function, he argued that the quantity of money required by a country bears a certain proportional relationship to the value of its annual produce. As he put it,

> The quantity of money . . . annually employed in any country, must be determined by the value of the . . . goods annually circulated within it. [3; p. 323]

Here is the notion of the stable money demand function

$$(8) \quad M_d = kPY$$

that underlies the monetary approach. Consistent with that approach, Smith treats the variables on the right hand side of this equation as fixed and given in his analysis of the international adjustment mechanism. Indeed he states as much in his discussion of the "channel of circulation" (his expression for the demand for money). He says that, given prices and assuming the volume of

> goods to be bought and sold being precisely the same as before, the same quantity of money will be sufficient for buying and selling them. The channel of circulation, if I may be allowed such an expression, will remain precisely the same as before. [3; p. 278]

As noted by David Laidler [1; p. 189], Smith's concept of a channel of circulation whose capacity to carry money is fixed given the prevailing level of commerce is equivalent to the modern concept of a stable money demand function whose price and real output arguments are given.

With respect to the money supply identity, he held that in a mixed (paper/metal) monetary system where banknotes are convertible into specie upon demand at a fixed price, the money stock M_s consists of the sum of banknotes N and specie S in circulation.[5] That is

$$(9) \quad M_s = N + S$$

where N is the purely domestic (paper) component of the money stock and S is the international (metallic) component. Smith's distinction between paper and specie corresponds to the monetary approach's distinction between the domestic credit and foreign reserve components of the money stock.

As for the law of one price, he implicitly assumed that the domestic currency (paper) price of goods P is identical to the world gold price of goods P_w converted into domestic monetary units at the market price of gold E (a fixed exchange rate when currency is convertible), i.e.,

$$(10) \quad P = EP_w.$$

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[5] See Smith [3; p. 277] where he explicitly refers to banknotes as "paper money" and asserts that under convertibility such notes "come to have the same currency as gold and silver money, from the confidence that such money can at any time be had for them."

He then argued that under convertibility the exchange rate E is fixed and given by the designated gold weight of a unit of the domestic currency and that the gold price of goods is determined on world markets by the demand for and supply of that monetary metal. From this he concluded that domestic currency prices are also determined on world markets and given exogenously to the small open economy.

Finally, Smith stated the monetary equilibrium condition

$$(11) \quad M_s = M_d$$

according to which the stock of money M_s equals the demand for it M_d thereby ensuring that the market for cash balances clears and that all money is willingly held. He expressed this condition when he declared that

> The value of goods annually bought and sold in any country requires a certain quantity of money to circulate and distribute them . . . and can give employment to no more. The channel of circulation necessarily draws to itself a sum sufficient to fill it, and never admits any more. [3; p. 409]

Smith's model can be condensed to one reduced-form expression by substituting equations 8 through 10 into equation 11 to obtain

$$(12) \quad S = kEP_wY - N$$

which expresses the dependent specie variable S in terms of the independent variables that determine it. The equation predicts that changes in the independent variables will be matched by corresponding changes in the specie component of the money stock so as to maintain monetary equilibrium intact. On this basis, Smith concluded that rises in the level of domestic economic activity (i.e., EP_wY, the national product measured in domestic monetary units) would induce accommodative inflows of specie. In this way, the money stock would expand to meet the increased needs of trade. Said Smith,

> The quantity of money . . . must in every country naturally increase as the value of the annual produce increases. The value of the consumable goods annually circulated within the society being greater, will require a greater quantity of money to circulate them. A part of the increased produce . . . will naturally be employed in purchasing, wherever it is to be had, the additional quantity of gold and silver necessary for circulating the rest. The increase of those metals will in this case be the effect, not the cause, of the public prosperity. [3; pp. 323-24]

In short, a rise in the level of economic activity induces the very monetary expansion necessary to support it. Conversely, a fall in the level of economic activity induces a monetary contraction through the balance of payments since

> The same quantity of money . . . cannot long remain in any country in which the value of the annual produce diminishes. The quantity of money . . . which can be annually employed in any country, must be determined by the value of the consumable goods annually circulated within it [and] must diminish as the value of that produce diminishes . . . . But the money which by this annual diminution of produce is annually thrown out of domestic circulation, will not . . . lie idle [but] will, in spite of all laws and prohibitions, be sent abroad, and employed in purchasing consumable goods which may be of some use at home. [3; p. 323]

In short, an autonomous reduction in the demand for money will induce an equivalent contraction of the money stock as domestic residents export money through the balance of payments in exchange for imports of foreign goods. Here is the proposition that money is a dependent, demand-determined variable in the small open economy.

Composition of the Money Stock

Smith also employed the preceding model in enunciating the third proposition of the monetary approach, namely the notion that the monetary authorities can determine the composition but not the total of the money stock. Assuming a given money demand (the first term on the right-hand side of equation 12), he argued that an increase in the paper (banknote) component of the money supply would induce an equal and offsetting decrease in the metallic (specie) component leaving the total money stock unchanged. He traced a chain of causation running from increased paper to excess money supply to increased spending to balance of payments deficit and corresponding specie drain to elimination of excess money and the restoration of monetary equilibrium. Via this mechanism, paper, he declared, would displace an equivalent amount of specie thereby leaving the aggregate money stock unaltered. In Smith's words,

> . . . as the quantity of gold and silver, which is taken from the currency, is always equal to the quantity of paper which is added to it, paper money does not . . . increase the quantity of the whole currency. [3; pp. 308-9]

From this he concluded that

> The whole paper money of every kind which can easily circulate in any country never can exceed the value of the gold and silver, of which it supplies the place, or which (the commerce [and thus the demand for money] being supposed the same) would circulate there, if there was no paper money. [3; p. 284]

Paper, he says, could never exceed the quantity of metallic money that would otherwise circulate in its place. For,

> Should the circulating paper at any time exceed that sum, as the excess could neither be sent abroad nor be employed in the circulation of the country, it must immediately return upon the banks to be exchanged for gold and silver. Many people would immediately perceive that they had more of this paper than was necessary for transacting their business at home, and as they could not send it abroad, they would immediately demand payment of it from the banks. When this superfluous paper was converted into gold and silver, they could easily find a use for it by sending it abroad . . . . [This gold and silver therefore will] be sent abroad, in order to find that profitable employment which it cannot find at home. [3; pp. 284-5]

The result would be a temporary balance of payments deficit financed by an outflow of specie. Via this mechanism, an increase in the banknote component of the money supply would result in the expulsion of an equivalent quantity of specie leaving the total money stock unchanged. Here is the origin of the proposition that the banking system (including the central bank) can affect the composition but not the total of the money supply in the small open economy.

Price-to-Money Causality

The fourth proposition of the monetary approach holds that causality runs from prices to money in the small open economy operating under fixed exchange rates. According to this proposition, prices are determined in world markets by world money supply and demand. And once determined, these prices are given exogenously to the small open economy by the operation of commodity arbitrage, which ensures that prices are everywhere the same. Finally, money flows in through the balance of payments to support or validate the given price level. In this way, causality runs from prices to money in the small open economy contrary to the predictions of the quantity theory. That is, while the quantity theory applies at the level of the closed world economy, it does not apply to the small open economy operating under fixed exchange rates.

That Smith endorsed this proposition is evident from his discussion of specie flows into the small open economy. He argues that one cause of these flows is a rise in world (gold) prices due to the increased fertility of the mines.[6] Under a convertible currency regime the rise in world prices translates into an identical rise in domestic prices and a consequent rise in the nominal demand for money. This rise in money demand then induces an accommodating inflow of specie that augments the money stock. The cause of the specie inflow and consequent rise in the domestic money stock, says Smith, "is no doubt . . . the diminution of the value of the precious metals" resulting from "the increased abundance of the mines." [3; p. 188] Here is the essence of the anti-quantity theory or reverse causation view that prices cause money and not money prices in the case of the small open economy in a convertible currency regime.[7]

Adjustment Via Direct Expenditure Effects Rather Than Relative Price Effects

Finally, Smith adhered to the last two propositions of the monetary approach. Those propositions state that international adjustment takes place through direct spending (real balance) effects rather than through relative price effects such as those suggested by Hume. Relative price effects are ruled out on the grounds that commodity arbitrage renders the price of traded goods everywhere the same so that (assuming all goods are traded) domestic prices cannot deviate from foreign prices. With divergent price movements ruled out, adjustment of actual to desired money balances must occur through a direct expenditure channel running from an excess supply of money to the demand for imports of foreign goods and securities.

That Smith did indeed accept these propositions is evident from his discussion (quoted below) of trade balance deficits and specie flows. Whereas Hume

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[6] "The quantity of the precious metals may increase in any country [he says] from two different causes: either, first, from the increased abundance of the mines which supply it; or, secondly, from the increased wealth of the people, from the increased produce of their annual labour. The first of these causes is no doubt necessarily connected with the diminution of the value of the precious metals; but the second is not." [3; p. 188] In other words, specie inflows stemming from rises in the world money stock are inflationary whereas those induced by expansions in domestic real income are not inflationary since they merely represent a redistribution of an unchanged world money stock. Thus expansions in the world money stock raise prices while expansions in the domestic money stock (world stocks constant) have no effect on prices. The quantity theory applies to the closed world economy but not to the small open economy.

[7] Note that Smith rejects the quantity theory only in the convertible currency (fixed exchange rate) case. He fully accepts the theory in the case of the small open economy operating with an inconvertible paper currency. Indeed, he points to the monetary experiments of the North American colonies as evidence that such a paper currency can be overissued, causing it to depreciate relative to goods and gold. [3; pp. 309-312] That is, he contends that in the absence of convertibility, excessive growth of the domestic money supply will inflate all prices including the price of specie (i.e., the exchange rate between paper and gold). Here is the quantity theory notion that causality runs from money to prices and exchange rates in an inconvertible currency (floating exchange rate) regime.

had argued that a money-induced rise in domestic relative to foreign prices is what generates trade balance deficits and the consequent outflows of specie, Smith attributed these phenomena solely to money-induced rises in direct foreign expenditures. He said nothing about price level changes. In his view, an excess supply of money would induce an increase in expenditures as domestic residents sought to convert the unwanted money balances into goods and services. With the economy operating at full employment and with prices given, however, the increased expenditure would spill over into the balance of payments in the form of increased demand for imports. The result would be a temporary trade balance deficit financed by outflows of specie. This would continue until the excess money was eliminated and monetary equilibrium restored. As Smith himself expressed it, if more money "is poured into" the "channel of circulation" than that channel can possibly hold, the excess

> cannot run in it, but must overflow . . . . [The superfluity] must overflow, that sum being over and above what can be employed in the circulation of the country. But though this sum cannot be employed at home, it is too valuable to be allowed to lie idle. It will, therefore, be sent abroad, in order to seek that profitable employment which it cannot find at home. [3; p. 278]

That is, it will be "employed in purchasing foreign goods for home consumption." [3; p. 279] In short, via these direct expenditure effects and the resulting trade balance deficit,

> Gold and silver . . . will be sent abroad, and the channel of home circulation will remain filled with . . . paper, instead of . . . those metals which filled it before. [3; p. 278]

Here is Smith's endorsement of the direct expenditure channel postulated by the monetary approach. His acceptance of this channel rather than the alternative price-specie-flow channel helps resolve the so-called mystery of his failure to incorporate Humean relative price effects into his analysis of the international monetary mechanism.

Summary and Conclusions

This article has documented Adam Smith's adherence to what is now known as the monetary approach to the balance of payments. His adherence to that approach helps resolve what some commentators perceive as a puzzle in his writings, namely his failure to incorporate quantity theory of money and Humean price-specie-flow elements into his analysis of the international monetary mechanism. Far from being a puzzle, however, his neglect of these concepts is perfectly compatible with the logic of the monetary approach. Consistent with that approach, he rejects the quantity theory on the grounds that causality runs from prices to money in the small open economy, contrary to the predictions of the quantity theory. Similarly, he rejects the price-specie-flow idea on the grounds that prices are given exogenously to the small open economy and cannot deviate from foreign (world) prices. For this reason he concludes that adjustment must occur through direct expenditure (real balance) effects rather than through relative price effects, the same conclusion reached by the monetary approach.

The article also suggests that Smith merits more consideration as a monetary theorist than he is usually granted. For, by arguing that money demand in a small open economy is exogenously determined and that any excess money supply will be automatically drained abroad in the form of specie flows as individuals work off their excess cash balances by increasing their net foreign expenditures, Smith may be said to have laid the groundwork for the modern monetary approach to the balance of payments.

References

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